

NAVY MEDICINE

May-June 2000



50th ANNIVERSARY
KOREAN WAR
1950-1953

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Janice Marie Hores

Book Review Editor
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NAVY MEDICINE

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COVER: Korean War Veterans Memorial, Washington, DC. Fifty years ago this June North Korean forces crossed the 38th parallel. This issue highlights the Medical Department's role in what has been called "the forgotten war." Photo by the Editor and Assistant Editor.

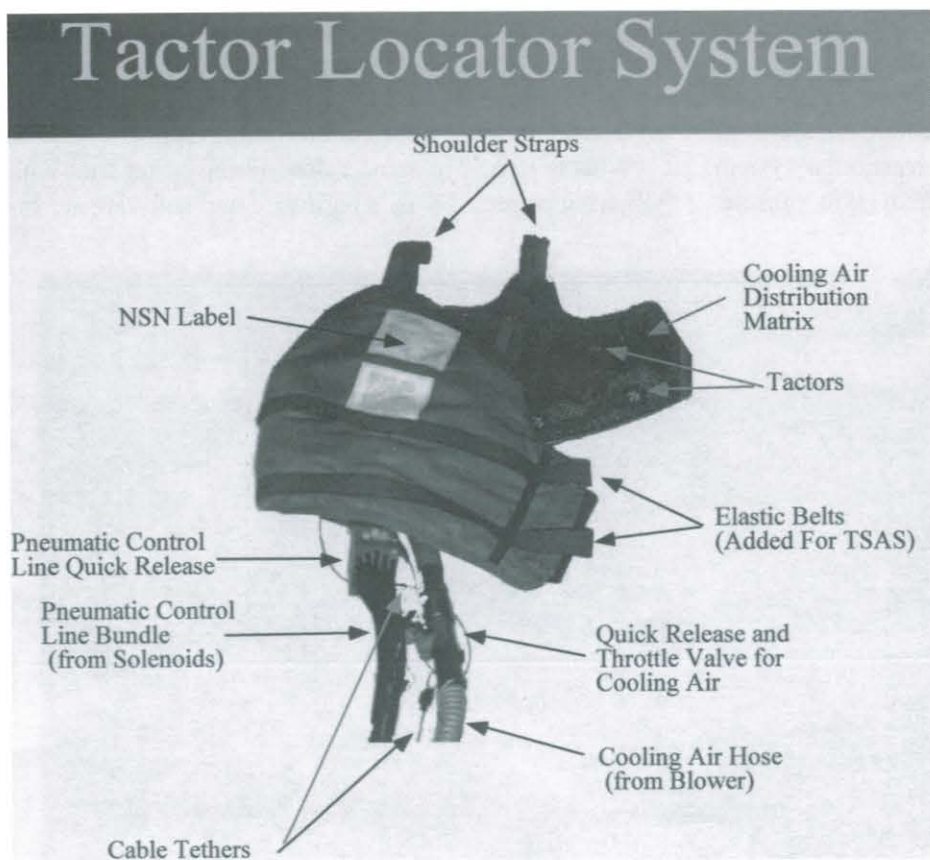
Pilots: Close Your Eyes and Fly!

By capitalizing on a pilot's innate sense of touch, Navy medical researchers are solving the problem of spatial disorientation. Their work can mean a major breakthrough in aviation safety. The payoff is lives saved.

The solution requires a great deal of engineering, but the technology is based on biology and basic human senses. The research team designed a prototype computer system and lightweight flight vest that translates digital information

from the aircraft's orientation instruments into vibrations. The pilot feels the vibrations from tactile stimulators (tactors) sewn into a flight vest. Touch becomes a continuous spatial orientation cue.

What is spatial disorientation? Remember the last time you were in an airplane, sitting in a window seat reading the latest best seller, no turbulence, clear blue sky with bright sunlight filling the cabin. You look up to see the flight attendant walking effortlessly down the aisle toward you, the coffee carafe in one hand and a beverage in a clear plastic cup in the other. You feel the plane flying straight and level. The flight attendant fills your coffee cup. Taking a sip you turn to look out the window and are mildly surprised to see the aircraft in a gradual bank. Until you looked out the window (checked your visual cues), you were spatially disoriented. You were not aware of your orientation in the sky in rela-



tion to the ground. Down is not always where the feet are pointed! The moment passes; you go back to reading your book and in a few hours land at the airport and continue your day.

For you the experience was a curiosity. For a combat pilot in a military aircraft launched from an aircraft carrier over the Pacific Ocean on a hazy night, spatial disorientation can be disastrous. Only a few seconds of spatial disorientation (SD) can cause a fatal accident. During flight, the body's ability to sense the direction of gravity is compromised by the acceleration forces associated with maneuvering. As the aircraft accelerates into the night sky, should the pilot lose visual cues then the signals the brain receives from the body's other sensory systems are false. If the pilot is momentarily distracted from visually scanning the cockpit instrument panel, the plane could go into a banked, descending turn, even though the pilot would feel the plane flying straight and level. Spatial disorientation is a serious and costly military and civilian aviation safety problem. The Navy loses in excess of \$150 million and 15 lives per year due to SD mishaps.

The cause of SD in flight is biological according to CAPT Angus H. Rupert, MC, USN, a Navy flight surgeon and the principal investigator on the project at the Naval Aerospace Medical Research Laboratory (NAMRL) in Pensacola, FL. CAPT Rupert outlined the problem, "On the ground, in our day-to-day activities, spatial orientation is continuously maintained by accurate information from three independent, redundant, and concordant sensory systems—vision, the vestibular system (inner ear), and the somatosensory system (skin, muscle, joints). We walk upright without giving a second thought to the complex processes at play within our bodies. The brain integrates information from the eyes, inner ear, skin, muscles, and joints to make smooth accurate movements. Our sensory mechanisms have spent millennia evolving to their present level of sophistication, well able to cope with most terrestrial experiences. Spatial orientation, which even on the ground involves a simultaneous integration of information from multiple sensory systems, poses an even more complex problem in the aerial environment."

Once the pilot leaves the ground and enters the sky the senses take

on a whole new importance and their limitations become apparent. In the aeronautical environment the vestibular and somatosensory sensations do not provide accurate information about which way is down. That leaves vision as the only reliable sensory system.

Since aviation began, vision has been the sensory system of choice. Engineers focused on enhancing visual cues to maintain orientation and avoid SD. Early technological advances began with the gyroscope to stabilize controls and maintain straight flight. Later the gyroscope was coupled to an artificial horizon device. That was followed by head-up displays and helmet-mounted displays. Yet with all the information visually available, SD mishaps continue to occur, although at a lesser rate. Future human-factors solutions for aviation must involve more than one sensory system.

In 1989 CAPT Rupert first proposed a non-visual solution to provide intuitive spatial orientation—the Tacile Situation Awareness System (TSAS). Using touch in concert with vision, pilots would constantly know where *down* is. CAPT Rupert explained that touch is a very strong intuitive sense, "When someone comes up behind you and taps you on the shoulder, you automatically turn. You know what direction to turn. Touch is the first sense to develop in the womb. It develops before the inner ear, before hearing. It develops long before vision. Our bodies first experience touch, and the other sensory systems are added sequentially as the fetus develops to complete an overall package of orientation information."

What is TSAS? Imagine a close-fitting jacket lined with vibrating pagers. TSAS's hardware and software are in-



Subject experiences a TSAS vest simulation.



Aerospace physiologist LT Kelly Johnson, MSC, USN, wears the tactile vest under her flight suit.

terfaced with a rotary or fixed-wing aircraft's instruments (radar, pitch and roll information, ground proximity warning system, etc). TSAS's computer captures the navigational and orientation data and the output becomes vibrations on selected areas of a flight vest fitted with rows and columns of dime-sized tactors. The flight vest lets the pilot know where the ground is at all times. The pilot literally feels the orientation with respect to the ground. For example, a vibration near the right shoulder means the aircraft banked right at 90 degrees, a vibration lower under the arm indicates a 45-degree right bank. A vibration at the navel indicates the aircraft's nose is down.

CAPT Rupert and his team have successfully tested TSAS in flight simulators and in operational aircraft. He added, "By using the latest technologies we have increased the aircrew's situation awareness. What we have done with this system is provide the pilot with true information on where down is at all times. TSAS has proven the novel concept that spatial orientation can be intuitively maintained by providing information about the aircraft's position to the pilot through the sense of touch. In fact,

during testing, it was not possible to disorient visually deprived pilots who were wearing the vest. They continued to successfully maneuver the aircraft."

CAPT Rupert went on to say, "TSAS has the capability of providing a wide variety of flight parameter information, for example, attitude, altitude, velocity, navigation, acceleration, and threat location. TSAS, integrated with visual and audio display systems will provide the right information at the right time by the right sensory channels and represents the next generation human systems interface for tactical aircraft."

TSAS is being considered for use in other military communities. Water compatible tactors are being designed for use in the maritime environment for special warfare operations. CAPT Rupert pointed out that divers do not necessarily need the suit to know where *down* is unless the water is turbulent or a diver's ears are experiencing pressure problems. In the diving environment, swimmers working in dark or murky water can reach farther than they can see. The suit will provide navigational information.

CAPT Rupert said, "What we can do is provide touch cues to tell divers left, right, up, down and guide them through any path in the water. For example, this can have a particular application for people trying to conduct mine counter-measure operations."

The TSAS project calls NAMRL home. For more than 60 years NAMRL has conducted research in aerospace medicine, aerospace physiology, and aviation psychology. This includes investigating methods to enhance aircrew performance, aviation selection and assessment, and human factors engineering. For more information on TSAS and other NAMRL projects visit the web site at <http://www.namrl.navy.mil/>. □

—Story by Doris M. Ryan, Medical Research and Development Division (MED-26), Bureau of Medicine and Surgery, Washington, DC.

Navy Medicine in the Forgotten War Korea 1950-1953 Part I

CAPT Eugene H. Ginchereau, MC, USNR

During the early hours of 25 June 1950, a North Korean People's Army (NKPA) of approximately 100,000 men supported by Russian advisors, tanks, and artillery surged across the Korean 38th parallel in defiance of World War II allied agreements and United Nations (UN) mandates. The heavily armed and mobile force quickly overcame the disorganized resistance of the ill-prepared and equipped Republic of Korea Army (ROKA), occupied Seoul, and pushed deep into South Korea.

The suddenness and success of the NKPA invasion stunned the world and precipitated a military and political crisis that many believed would lead to World War III. President Harry S. Truman responded decisively. Bypassing Congress, he reaffirmed the

American commitment to an independent Republic of Korea (ROK) and pledged immediate military support. His declaration was matched by a series of UN resolutions which called for the withdrawal of the NKPA and asked member nations to assist the ROK in repelling the invasion.

On 29 June 1950, President Truman ordered a naval blockade of the Korean coast and authorized GEN Douglas MacArthur, Far East Commander of U.S. Forces, to send ground troops to Korea. Within days Task Force Smith, forward elements of the U.S. 24th Infantry Division, engaged the NKPA near Osan, a town south of Seoul. After 5 years of relative peace the United States was again at war, but for the first time fighting under the UN flag.

Mobilization and Expansion

The military establishment that President Truman mobilized in 1950 was significantly different in size and capability than the one which fought victoriously in World War II. Almost immediately after the defeat of Germany and Japan in 1945, demobilization began. This was followed by The National Security Act of 1947 and its subsequent amendments which created the Department of Defense, radically reorganizing the military by placing the services under the control of civilian secretaries and the overall direction of the Secretary of Defense. This magnified the drive for cost-cutting, manpower reductions, and economic efficiency through the service integration of resources. The effects of these changes on the U.S. armed

forces were dramatic, resulting in a military unprepared in personnel and materiel to face the challenges ahead. Army combat ground forces of nearly 100 divisions in 1945 decreased by June 1950 to 10 undermanned and poorly equipped divisions. Four of these, the 7th, 24th, 25th, and First Cavalry Divisions were on occupation duty in Japan.(1) The Navy decreased from 3,405,525 personnel to 381,538, the Marines from 485,113 to 74,279.(2)

Likewise, the Navy Medical Department experienced profound reductions. The number of naval hospitals decreased from its peak in World War II of 83 to 26 in 1950.(3) Bed capacity plummeted from 137,931 beds to 22,804.(4) The decrease of medical personnel was particularly acute. From the end of 1945 to 30 June 1950, the number contracted from about 170,000 to almost 21,000.(5)

To meet the personnel requirements required by renewed hostilities and the looming possibility of another world war, DOD began an intensive procurement effort. Reservists were activated, separations and retirements deferred, and volunteers solicited. There was an urgent need for medical personnel, particularly physicians. The shortage of physicians was so large that Public Law 779, widely known as the "Doctor Draft Law," was passed on 9 September 1950.

Within 1 year Navy programs produced an increase in the Medical Department of 19,417 men and women, approaching a doubling in the number of Medical Corps, Nurse Corps, and Dental Corps officers, and hospital corpsmen.(6) In fact, physician recruitment was so successful that the Secretary of Defense directed the Navy to reassign 570 Reserve Medi-

cal Corps officers to the Army during October 1950 to meet its quota of physicians.(7)

There was, however, a shortfall of Nurse Corps officers that persisted throughout the war. At the end of March 1952 the ratio of Navy nurses to the combined authorized strength of the Navy and Marine Corps was 3.3 per thousand. This was not considered adequate support for the operating forces.(8)

Concomitant with this was the rapid expansion of medical and dental facilities. Hospitals had to be enlarged, reactivated, or built. By 30 June 1951, the Navy Medical Department had created 13,280 additional beds and constructed 79 new dental facilities.(9) Of the facilities expanded, none was more important than the naval dispensary at Yokosuka, Japan. The capacity was quickly increased to 800 beds, and it was commissioned a naval hospital on 30 August 1950, becoming the only fixed naval hospital in the Korean theater of operations. Three months later Naval Hospital Yokosuka was treating approximately 6,000 casualties a month.(10)

The Pusan Perimeter

By early August 1950, less than 6 weeks after crossing the 38th parallel, the NKPA had driven the U.S. Eighth and the ROK Armies to the extreme southeastern area of the Korean Peninsula. UN forces struggled to establish and maintain a defensive perimeter around the vital port city of Pusan. The NKPA repeatedly attempted to breach these defenses during August and September 1950 but the Pusan Perimeter held.

The First Provisional Marine Brigade presence was crucial to the de-

fensive operations around Pusan during this pivotal period. Arriving on 2 August 1950, the Brigade was immediately placed in support of the defenses in the western sector. It saw near continuous action until withdrawn on 5 September 1950 when it was absorbed into the First Marine Division.

The Brigade was accompanied by the Brigade Medical Section, the first naval medical and dental unit to experience combat in Korea. The unit had 14 physicians, 2 dentists, 1 Medical Service Corps officer, and 154 hospital corpsmen and dental technicians. The commanding officer was CAPT Eugene R. Hering, MC, the only officer with previous combat experience. Because of the rapidity with which the unit was assembled, none of the other officers and few of the hospital corpsmen had received field training. Yet, immediately after debarkation, the Medical Section entered combat with the Brigade.

On 3 August 1950, the first night in the Masan area, B Medical Company received its first casualty, a serious chest wound. The patient was stabilized and evacuated by helicopter to Pusan. This was the first front line air evacuation of a Marine combatant in the Korean War. This method of evacuation became routine in Korea and saved the lives of countless seriously wounded men.(11)

The Medical Section supported the Brigade's initial operations west of Masan at Chindong-ni, Kosong, and Sachon from 7-13 August as part of Task Force Kean. CAPT Hering noted in his combat report that "casualties were heavy from the first hour. At 2000 on 8 August," he continued, "a serious situation developed when the route of evacuation to the rear was cut

off by an enemy road block.”(12) This would happen repeatedly, placing hospital corpsmen and casualties at great risk. Three days later a corpsman was killed when an enemy anti-tank gun destroyed his ambulance. Of the 50 men killed in action during this period four were hospital corpsmen—HN William H. Anderson, HM3 John Marquez Jr., HM3 James E. Smith Jr., and HM3 Roy D. Turner. These were the first Navy medical personnel killed in combat in Korea.(13)

The Brigade was transferred to the Miryang area where it participated in the first and second battles of the Naktong River bulge, 14 August-5 September. In these battles the shortage of hospital corpsmen was so acute that the entire Malaria and Epidemic Control Unit had to be used to support the regimental aid station. At Miryang the unit worked closely with Army medical personnel as it had done in earlier operations, setting a precedent for successful interservice cooperation.

During these engagements, afloat Navy medical personnel also actively supported the defense of the Pusan Perimeter.

The USS *Consolation* (AH-15) arrived at Pusan on 16 August 1950 and functioned as a base hospital. Prior to its deployment, a helicopter landing platform was installed on her afterdeck, making her the first Navy hospital ship to be so configured.(14) This innovation significantly decreased the evacuation and embarkation time for the wounded.

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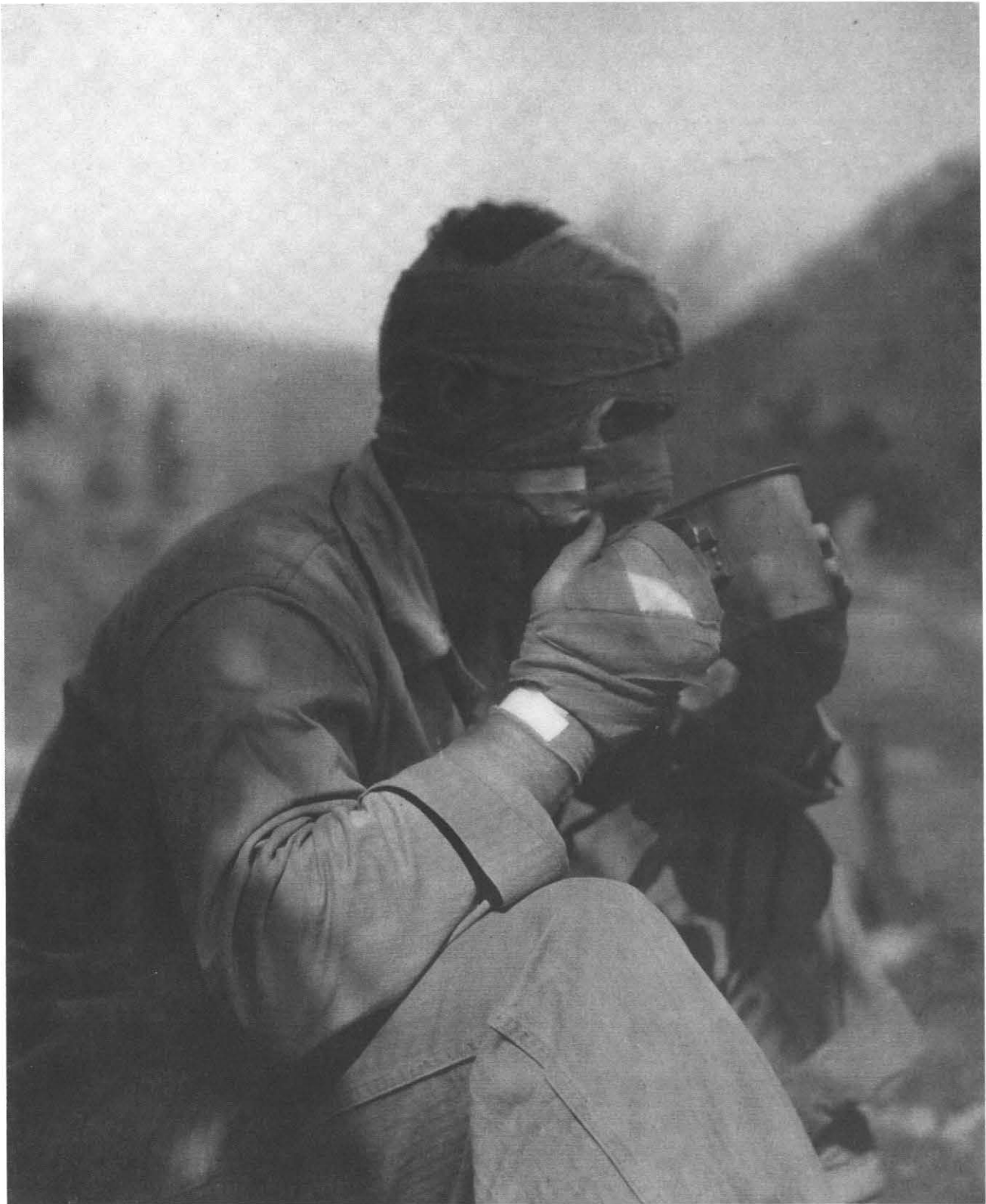
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Dr. Ginchereau is Director of Occupational Health Services, St. Francis Health System, Pittsburgh, PA. He is assigned to Fleet Hospital, Fort Dix, NJ, Det. 01.



A wounded Marine sips hot coffee while awaiting evacuation to a rear area for treatment.



Sub-zero temperatures and constant harrassment by Chinese forces on the road from Chosin Reservoir made every step a living hell for these Marines.



A Marine wounded at Inchon is evacuated by landing craft.



The enemy did not always honor the Geneva Accords. Riddled by small arms fire, an Army ambulance is still used to evacuate wounded.



Physician and hospital corpsman from C Medical Company work on a wounded Marine just evacuated from the front.

His "breakout" from Chosin Reservoir over, a wounded Marine receives water aboard an air evacuation transport.



A wounded ROK (Republic of Korea) soldier goes by highline from USS *St. Paul* to USS *Wisconsin*.

A helicopter crew plans the shortest route to a field hospital while their comrades load another casualty aboard.



Photos from BUMED Archives



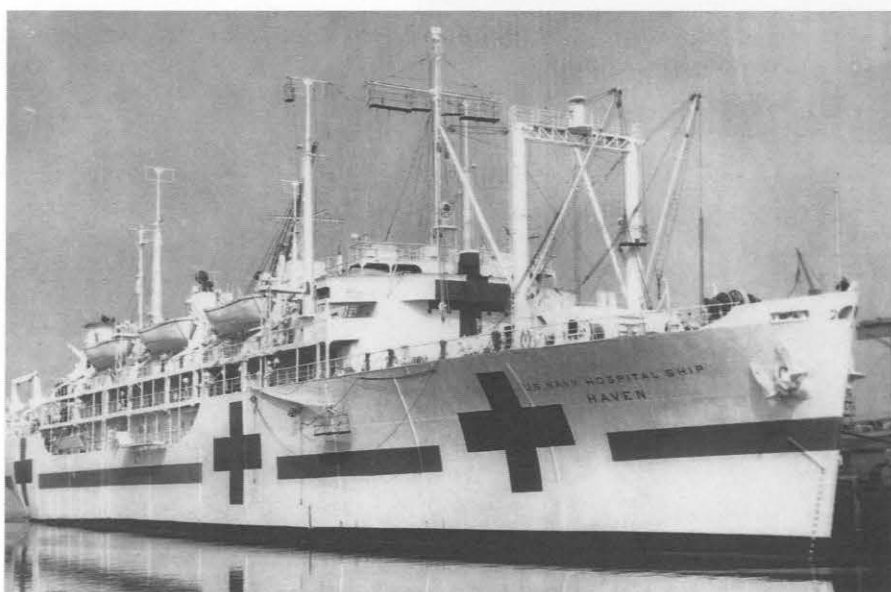
A 1st Marine Division mobile dental facility dedicated to a dental technician killed in action.



U.S. Navy Hospital Ship *Repose*

U.S. Navy Hospital Ship Repose (AH-19) underway at sea, showing the ship's name and the large red cross on its side.

U.S. Navy Hospital Ship *Consolation*



U.S. Navy Hospital Ship *Haven*



A buddy helps this wounded Marine to the rear. The attached casualty tag indicates that a hospital corpsman has already provided initial treatment.

NAVSEA Hosts Hearing Symposium

CAPT Jane F. Vieira, CHC, USNR

The Naval Sea Systems Command (NAVSEA) recently hosted the Navy's first symposium on "Hearing as a Readiness issue." Focusing on Noise-Induced Hearing Loss (NIHL), more than 20 military and civilian experts in research audiology and acoustics engineering from across the country, met to address and seek solutions to the impact of noise on operational readiness aboard surface ships.

The conference looked at the effect of noise on performance and safety, as well as how the problem concerns the entire spectrum of Naval personnel. Subject matter experts presented studies demonstrating that sailors leave the Navy with significant hearing loss and that, 282,000 service members currently collect compensation for hearing damage. Associated costs to the Veterans Administration were more than \$291.7 million in 1999, however under managed care this figure may not reflect the total cost.

VADM Pete Nanos, Commander, Naval Sea Systems Command addressed the symposium noting that, "Noise impacts the readiness of the Navy in many ways, including poor or lost communications, sleep deprivation, fatigue, reduced alertness, safety, retention, morale, habitability, as well as short and long term hearing loss." Nanos stated that, "For our sailors, hearing conservation certainly is an issue of readiness, safety, health and quality

of life. Fixing this problem is an ethical and leadership issue, and it is the right thing to do for those entrusted to our care."

Hearing stress, which is measured in decibels, increases on a logarithmic scale. Symposium experts demonstrated how the majority of sounds encountered by military personnel potentially fall within a dangerous range of sound pressure levels.

Continuous background noise, as experienced on most surface ships, begins hearing stress. Additional noise peaks, such as the firing of a weapon or an aircraft launch, superimposed on continuous background noise can cause even greater damage. Hearing research has also concluded that humans adapt to higher noise levels, and consequently become accustomed to harmful sound levels.

While hearing has been viewed as more of a health or quality of life issue, existing data increasingly suggests it is also a significant operational readiness concern. The steady and intermittent noises created by launching and recovering aircraft 24 hours a day produce deafening noises from jet engines at full power, arresting gear machinery, arresting cable slap, catapult launches, waterbrakes, and much more.

Better hearing protection devices currently being deployed was one of the solutions to the problem of noise on surface ships presented at the conference. Discussions

also included the use of pharmacological methods to prevent and reverse hearing loss. These methods are in pre-clinical trials and appear to offer exciting and cost-effective strategies to reduce permanent hearing loss from excessive noise. Acoustic technology is also providing solutions, especially in the commercial arena. Quiet fans and motors, new insulation materials, laminated sheet metal, better joiner systems, and effective communication earpieces are all being used commercially in active noise control efforts.

Nanos challenged the symposium members to raise the priority of hearing loss prevention with completed studies and data assimilation. "NAVSEA's goal for the 21st century is not only to eliminate the impact of noise as a factor in operational readiness and to increase ship-

board quality of life, but to do our part in keeping Sailors and Marines out of hearing conservation programs rather than just preventing hearing loss. A sign in front of Marine Corps Air Station, Beaufort reads, "The noise you hear is the sound of freedom." That may have been true in the 20th century, but in the 21st we need to do better than that and prevent noise from producing hearing loss in the first place. We owe those who protect our freedom nothing less. As we push SSN-21 and DD-21 to be the quietest ships in the world, we must apply our talents to mitigate the high noise levels found on aircraft carriers and improve both living and working conditions for our Sailors and Marines at sea," Nanos concluded. □

CAPT Vieira is claimant chaplain assigned to the Naval Sea Systems Command, Arlington, VA.

Hearing Loss: New Approaches to a Persistent Problem

Traditional approaches to prevent hearing loss in military settings have included efforts to engineer weapons systems and work spaces to be quieter, personal protection devices, and hearing conservation programs.

Considerable reduction in noise-induced hearing loss (NIHL) has occurred since World War II. Still, there are physical and human factors which reduce the effectiveness of personal hearing protection devices such as transmission of sound energy through the skull directly to the inner ear, the need for a perfect seal of the protective device, discomfort, and the element of surprise.

These are some of the compelling reasons why a pharmacological approach to preventing or reversing NIHL may be attractive. This approach involves making the inner ear more resistant to noise through the use of antioxidant compounds, or in some cases reversing hearing loss using rescue agents. Most military personnel are exposed to damaging levels of noise during rather defined periods of training such as weapons training, flight operations, live fire exercises or shifts in engine rooms. The antioxidant compounds could be given to personnel around the time of such exposures along with mechanical protectors. The combination would more effectively reduce permanent hearing loss.

Another approach would be to monitor hearing levels closely and administer rescue agents to those personnel who develop hearing loss over these defined periods of intense noise exposure. This would enhance the ear's ability to recover and rest prior to further noise exposures.

NAVSEA will continue to be in the forefront in exploring these new solutions with the goal of completely eliminating hearing loss without compromising readiness.—COL Richard Kopke, MC, USA, Naval Medical Center San Diego, CA.

Naval Medical Center Clinicians Pilot Violence Prevention Program at Local School

MAJ Franklin H. Wood, Jr., MC, USA

From 2 March through 6 April 1999, representatives from the Naval Medical Center San Diego, Pediatrics Department [Adolescent Medicine Division] and Exceptional Family Member Program (EFMP) participated in the Straight Talk About Risks (STAR) Handgun and Violence Prevention Program at the Junipero Serra High School in Tierrasanta.

STAR is a gun violence prevention program. Predicated on the belief that all youth are at risk for gun injury or death, its purpose is to help youth develop victim prevention skills and to rehearse behaviors needed to non-violently manage problems such as conflict and peer pressure.⁽¹⁾

The STAR Program was developed by the Center to Prevent Handgun Violence in cooperation with the teachers, counselors, students, and parents affiliated with the public school system of Dade County, FL.

The STAR curriculum was critically reviewed by an elite team of experts in child development, injury prevention, crime prevention, and law enforcement in 1992, just prior to its national publication.

STAR ascribes to no political agenda, is entirely funded through private and public grants, and is currently being used by selected schools in over 90 communities nationwide including the school systems of New York City, Los Angeles, Chicago, and Dade County, FL.

Dr. Debbie Hall of Naval Medical Center San Diego (NMCS D) EFMB and Drs. Sanders Anderson and Frank Wood of the NMCS D, Pediatrics Department [Adolescent Medicine Division] adapted major components of the STAR curriculum for presentation over a 6-week cycle in Coach Thunder's first period tenth grade Drivers' Education course at Serra High School.

Specific components of the program included: (1) a True and False survey measuring the teen's knowledge of gun violence/safety issues ("Do Guns Make Us Safer?"), (2) a media violence assessment where the teen reported on the violent content and relative realism of a favorite television show or movie ("When The Acting's Over"), (3) a series of short answer questions about the teen's knowledge of personal triggers to anger ("Questions About Triggers"), (4) a listing of remarks that were

TABLE 1. ATTITUDES AND EXPERIENCES WITH HANDGUNS	Male Respondents (N=6)		Female Respondents (N=21)	
	YES	NO	YES	NO
Do you or does anyone in your household own a gun?	3	3	7	14
Have you ever handled a gun just to play around with it?	4	2	9	12
Have you ever fired a gun for target practice or hunting?	3	3	6	15
Have you ever fired a gun outside of target practice or hunting?	3	3	3	18
Has anyone ever made you so angry that if you had a gun you would have shot the person?	3	3	7	14
Have you ever seriously thought about shooting someone?	3	3	1	20
Have you ever been shot at?	4	2	1	20
Could you get a gun if you wanted one?	3	3	9	11
Have you ever witnessed a shooting?	1	5	4	17

assessed by the teen as being assertive, aggressive, or passive in their nature and which were then extrapolated for application to various role-playing situations where the teen was asked to behave in an assertive, aggressive, or passive manner.

The teens watched a peer-produced video on the consequences of violent action ("Justice is Done"). Dr. Larry Roberts, Trauma Surgeon at the NMCSO, gave them a very graphic lecture detailing the consequences of violence. Finally, they completed an evaluation of the STAR Program.

The tenth grade class was composed of 38 students: 13 male, 25 female with varied ethnic backgrounds and socioeconomic status. Participation rates, measured in returned homework assignments, averaged 63 percent. The students completed a nine-question survey regarding attitudes and experience with handguns (Table 1). Seventy-one percent of the students completed the survey. Fifty percent of the males surveyed and 33 percent of the females surveyed reported someone in their household owning a gun (though 21 percent qualified this statement with the caveat, "a BB gun"). Thirty-four percent of the females and 66 percent of the males reported ever handling a gun just to play around with it. Fifty percent of the males reported firing a gun for target practice or for hunting. Thirty-three percent of the females reported

doing the same. Fifty percent of the males and 14 percent of the females reported firing a gun outside of target practice or hunting. Fifty percent of the males and 33 percent of the females answered that if someone had made them angry enough and they owned a gun, they would have shot the person. Fifty percent of the males seriously thought about shooting someone, while only one female reported the same. One female answered that she had been shot at, while 67 percent of the males reported having ever been shot at. Forty-three percent of the females and 50 percent of the males reported that they could get a gun if they wanted one. Only one male and four females reported witnessing a shooting. "Witnessing" a shooting was defined as the act of violence happening outside of the teenager while "having been shot at" was defined as having the act of violence directed toward the teenager.

Seventy-one percent of teens also completed the true and false questionnaire, "Do Guns Make Us Safer?" The percentage of correct answers was high, 93 percent of teens recognizing specific facts about gun violence as being true or false (Table 2).

Sixty-five percent of the teens returned the "What's Assertive and What's Not" survey. The three facilitators prior to distribution of the survey defined assertive, aggressive, or passive statements. The most common error was in describing as "passive" those statements that were more correctly "assertive" (44 percent of errors for females and 33 percent of errors for males). Males also described more aggressive statements as simply assertive (31 percent of errors in males, 17 percent of errors in females). For females, more passive statements were identified as assertive (20 percent of errors in females and 12 percent of errors in males).

Only 44 percent of teens returned the "When the Acting's Over" assessment of media violence, with the majority (88 percent) believing that violence is common on television and/or the media. Fifty-two percent of teens felt that the media representation of violence that they watched compared favorably to what could happen in real life. All these teens remarked that the effects of the violent act or acts on other people were depicted in their program of choice.

Thirty-one percent of teens returned the "Identifying My Triggers" questionnaire. The most commonly cited trigger words for these teens were racial slurs (33 percent), degrading statements about personal attributes (25 percent), or about family members or friends (20 percent). Displaying the middle finger was the most common form of body language that triggered angry responses from this teenage sample (25 percent). Thirty-three percent of respondents also felt that feeling hot and flushed and clenching their teeth, respectively, were the most common physical signs heralding anger. Forty-one percent of respondents said that they either hit, scream, cry, or simply walk away from an angry situation. Fifty percent of respondents felt that they had a short fuse when queried on how long it took them to get angry. Finally, 50 percent of respondents said they would solve a conflict by walking away from it. Thirty-three percent said that they would talk it out. Table 3 presents this data in tabulated form.

Seventy-one percent of teens completed the STAR Program evaluation (Table 4). All the teens found the role playing either very helpful (50 percent for males, 52 percent for females) or somewhat helpful (50 percent of males, 48 percent for females). Thirty-three percent of males and 85 percent of females found the original video presentation, "Justice is Done" helpful or somewhat helpful. The males (50 to 66 percent) found the homework assignments somewhat helpful whereas the females found the assignments very helpful (38 to 52 percent) or somewhat helpful (38 to 52 percent). Eighty-three percent of males and 90 percent of females found the trauma surgeon's slide show of graphic violence very helpful.

Fifty percent of males felt that the STAR program gave them skills to deal with violence in their lives and would recommend this program to other students. Fifty-seven percent of females said that they thought the program helped them develop skills and would recommend it to other students. No teen felt the program was too long in length. Fifty percent of respondents felt the program was about just right in length or too short. Recommendations for improving the program centered on bringing in more guest speakers ("like another teen who had been affected by violence in their life"), covering more subjects and showing more graphic slides. Forty percent of teens could

TABLE 2. STUDENT RESPONSES: DO GUNS MAKE US SAFER? (N=27)

QUESTION	PREFERRED RESPONSE	STUDENT RESPONSE
1. There are 20,000 Americans killed each year with firearms.	False	True-13 False-14
2. There are 20 million firearms in circulation in the U.S.	True	True-7 False-20
3. The Handgun Control Initiative does not support the banning of handguns.	True	True-25 False-2
4. Today, in California, it is legal to walk into a gun store and buy 100 guns at one time.	True	True-20 False-7
5. Most people who are shot by a gun survive with only minor injuries.	False	True-0 False-27
6. Guns kept in the home are more likely to kill in self-defense than to kill a family member or loved one.	False	True-1 False-26
7. The Second Amendment gives every American the right to own a gun.	False	True-4 False-23
8. Suicide is the least frequent firearm death.	False	True-2 False-25
9. Taxpayers pay 4 billion dollars a year for hospital care for gun-related injuries.	True	True-27 False-0

identify something that they would do differently as a result of the STAR program and 40 percent of respondents also believed that their attitude toward gun violence had changed since the beginning of the program. Most of the teen respondents felt that talking more with the violent person (40 percent), staying away from the situation (37 percent) were key things that they could do as an individual to prevent violence. Only one respondent felt there was nothing that she could do as an individual to prevent violence. Two respondents felt that focusing on their own temperaments would be the best way they could prevent violence in their community. Another respondent felt that she could create an original play that would speak out against violence.

Among adolescents aged 15 to 19 years, firearm deaths outnumber deaths from any other disease category and rank second only to motor vehicle accidents as causes of injury-related deaths.⁽²⁾ In its position paper on adolescents and firearms, the Society for Adolescent Medicine has supported the incorporation of regular violence prevention counseling into health care activities of adolescent health providers. It also purports to involve said pro-

viders in campaigns aimed at educating the public about the dangers of guns and the need for gun control legislation.(3) Historically, violence prevention programs and interventions have been thought to be more effective when problem solving and conflict resolution skills are employed in addition to the simple teaching of facts about adolescent violence.(4) Primarily, conflict-solving skills have centered on role playing sessions and discourse-promoting questionnaires.(5) Research on the long-term effectiveness of such measures, however, is scant, but growing.(6)

Based upon our sample group of teenagers, it was our experience that teenagers are responsive to role-playing and to conversing with each other. Our group of teens also was profoundly affected by the graphic slide show but less impressed with the original peer produced video on the consequences of violence. They also were readily able to discuss the triggers to their anger yet were less imaginative when it came to brainstorming ways to resolve conflicts (walking away or talking it out being by far the most common solutions given for resolving conflict). The teens sent the facilitators handwritten letters of thanks for our time and effort after the program ended. Most students were impressed that the facilitators took time away from their jobs and were willing to listen to teens.

We met with the same group of teens in a videotaped session approximately 6 weeks later and several weeks after the Columbine tragedy in Colorado. We discussed their feelings about the tragedy in Columbine and how they were doing with their own interpersonal conflicts since the program's end. Key points brought out in this session included: (a) that something unique must have pushed the Columbine perpetrators into doing what they did as we all are confronted with situations that make us mad, but we all do not stage a massacre. (b) Also, the teens were not exactly sure what they would do if they found

out that one of their peers might be involved in some dangerous resolve. One teen said he might try to talk them out of it. It also seemed to be the feeling of the class that to tell teachers or school administrative officials about any perilous activity would be fruitless as "nothing would get done." The teens felt that adults do not always hear them, or that they say one thing and mean another ("you tell me to express myself but then when I do, I get punished or put down for it").

With regard to their own interpersonal skills, several differences of opinions surfaced during the course of the session, which prompted the facilitators to redirect aggressive reactions. The differences in opinion centered on a misconstrued attack on another student's religious beliefs and on the role, if any, that wealth and economic standing—and what it takes to maintain such—plays in distancing parents from their children.

The teenagers who participated in the STAR program seemed grateful for the time and the effort the facilitators expended in conducting the program. However, it is our intuitive sense that this program and its specific interventions could be more successful when ongoing and

TABLE 3. STUDENT RESPONSES: IDENTIFYING MY TRIGGERS (N=12)

1. What are "trigger words?"	a. Racial Slurs (4) b. Degrading personal statements (8) c. Degrading statements about family or friends (3) d. None (2)
2. What kind of body language makes me mad?	a. Middle finger display (3) b. Ignoring me/turning away/attitude (5) c. Rolling eyes (1)
3. How do I know I am mad?	a. Flushed face, feels hot (4) b. Cannot think (3) c. Talking under my breath (3) d. Getting really quiet (3) e. Increased heartbeat (1) f. Getting "snippy" (1) g. Clenched teeth/fist (1) h. Frown (1)
4. How do I react when I am mad?	a. Hit something (5) b. Cry, yell or scream (4) c. Get quiet (4) d. Walk away (3) e. Make sarcastic remarks (1)
5. Do I have a long or short fuse?	a. Short fuse (6) b. Long fuse (4) c. Undecided (2)
6. How do I or can I peacefully solve a problem, which has triggered my anger?	a. Walk away (6) b. Talk it out (4) c. Think about it (3)

TABLE 4. THE STAR PROGRAM EVALUATION (N=27)	Male Respondents (N=6)			Female Respondents (N=21)		
1. The goals of the STAR Program were clear.	AS-3	A-2	D-0	AS-14	A-7	D-0
2. Please rate the following features of the STAR Program:						
a. Peer-produced video, "Justice is Done"	VH-2	SH-2	NSH-1	VH-6	SH-12	NSH-3
b. Role-playing sessions	VH-3	SH-3	NSH-0	VH-11	SH-10	NSH-0
c. Identifying my triggers	VH-1	SH-4	NSH-1	VH-8	SH-11	NSH-2
d. When the acting's over	VH-1	SH-3	NSH-2	VH-11	SH-8	NSH-1
e. Assertive communication	VH-0	SH-4	NSH-2	VH-8	SH-12	NSH-0
f. Trauma surgeon visit/slide show	VH-5	SH-1	NSH-0	VH-19	SH-1	NSH-0
3. I feel that the STAR Program gave me some skills to help me deal with violence in my life.	AS-1	A-3	D-2	AS-9	A-12	D-0
4. I feel that the STAR Program gave me some skills to help others deal with violence in their lives.	AS-0	A-4	D-2	AS-8	A-12	D-1
5. I would recommend this program to other students.	AS-3	A-3	D-0	AS-14	A-7	D-0
6. I thought this program was:	TL-0	AR-3	TS-3	TL-0	AR-12	TS-9
AS=Agree Strongly, A=Agree, D=Disagree, VH=Very Helpful, SH=Somewhat Helpful, NSH=Not So Helpful, TL=Too Long, AR=About Right, TS=Too Short						

consistent in frequency. This might mean a program with more frequent follow-up sessions over the course of the year. Our program was less focused on helping the teenager become proactive in the prevention of violence in others as it was on increasing awareness in the teenager of his or her own internal cues to aggressive behavior. Perhaps a goal of a follow-up program would be to spend more time helping the teen become cognizant of specific leadership skills. This could be undertaken in several ways, perhaps most helpful being videotaped role-playing situations with playback and feedback by peers.

Other limitations of our program include small sample size, younger adolescent population, and no control group or outcome measure to truly measure the effectiveness of our endeavors. Nevertheless, attention to adolescent violence is essential whether in the form of the one-on-one adolescent/clinician interview or in the structure of a formalized prevention program. Such interventions appear to be most effective when they are more frequent, long-term and when they engage the adolescent in a more collegial and less didactic fashion.

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Dr. Wood is an Adolescent Medicine Fellow in the Pediatrics Department, Adolescent Medicine Division and Clinical Investigation, Naval Medical Center San Diego, CA.

The Continuing Debate Over Hospital Ships

CAPT Arthur M. Smith, MC, USNR (Ret.)

In the January-February 2000 issue of *Navy Medicine*, Guzman and Aboul-Enein offered a critique of LCDR Pietro Marghella's thoughtful essay in the December 1998 issue of *Proceedings* of the U.S. Naval Institute. Marghella had surmised that the current pair of T-AH hospital ships were created to remedy the medical needs of a U.S. Cold War strategy, and had now outlived their utility. He suggested that they be replaced with refurbished LSTs, similar in concept to the hospital LSTs (LST[H]s) utilized quite effectively in support of casualty care by U.S. and allied forces at the Normandy invasion, in the World War II Pacific island hopping campaigns, and during the Korean conflict of the early 1950s. Guzman and Aboul-Enein countered that Marghella's suggestion was clearly unworkable. They proposed that a retired large deck amphibious ship (LPH, LHA) would be far more advantageous.

In reality, however, the type of ship is not the key issue to be resolved for future fleet medical support, since the problems to be faced are far more complex. The greater question is how the current overall Navy and Marine Corps war fighting strategy can be medically supported, if at all!

Changes in international relations have shifted the Navy's focus from countering a global threat on the high seas to influencing world events in both coastal waters and those inland areas vulnerable to the striking power of sea-based forces. This has been complicated, however, by the world-wide availability of too many potential adversaries of modern, sophisticated, sea mining and ballistic missile technologies, many bearing contemporary western designs made available in commercial weapons markets. To counter these obstacles, U.S. expeditionary forces have adopted a heretofore more flexible operational doctrine. This entails "ship-to-objective" maneuver with insertion of forces from "over-the-horizon" located naval forces, without preliminary lodgement ashore. Changes in Marine Corps maneuver doctrine, and the Navy commitment of assets and procedures to support this mission, have been embodied in the expeditionary concept known as "Operational Maneuver From the Sea."

Historical precedent suggests that the sudden massive generation of casualties will remain a distinct possibility in any contemporary or future military setting. Nevertheless, consistent with the overall mandate for compactness and simplicity of maneuver units, Marine Corps land-



Improved flight deck on British hospital ship SS *Uganda* with an Argentine Puma casualty helicopter aboard.

ing force medical units have been correspondingly lightened and downsized, implying that the technical capabilities and patient holding capacities of Marine medical assets have become more constrained. While operations launched from the littorals could penetrate some 200 miles inland, the new lightness and mobility of the Marine assault force, with its downsized and reconfigured supporting medical units, implies greater dependence upon afloat resources, with the assumption of rapid evacuation of sick and wounded to offshore fleet assets. On each occasion, however, regardless of plans for constrained medical assets ashore, the wounded must still receive initial far forward care if they are to survive the immediately destabilizing impact of injury, and subsequently tolerate a sometimes tortuous journey to a higher echelon definitive care facility. With a limited, if any, lodgement ashore, this question must be answered first!

Unfortunately, seaward evacuation of casualties from a landed force in contact with the enemy, in a setting where minimal hospitalization assets have been estab-

lished on shore, is a delicate and precarious undertaking. It is easily thrown into confusion by sea, weather, enemy interference, and protracted retrograde distances out to ships of the afloat sustainment base. Moreover, any new concepts of casualty care must inevitably be factored against the modulating reality that the disturbed physiology borne by the combat wounded is often tenuous, and cannot be simply dealt with by standard logistic formulas which equate the movement of stretcher-borne patients with

those used for moving ration boxes.

Despite the requirement for reduced medical support ashore, the reality of casualty criticality cannot be ignored, while the tenets of medical evacuation still hold: (A) only the appropriate wounded should be selectively prioritized for evacuation, since mass evacuation will not only deplete available operational manpower resources of the retrievable minimally wounded, but concurrently overwhelm transportation and afloat casualty care receiving facilities; (B) casualties must be cared for during evacuation while maintaining their hemodynamic stability and cardiopulmonary functions; (C) medical complications must be anticipated; and (D) emergency interventions must be available during the evacuation. There are many obstacles to this vision of casualty recovery, and if it is to be accomplished, the details of medical support will require significant "re-engineering" followed by assiduous field trials. These questions must clearly be addressed before a specific form of afloat receiving facility is defined.

Any programs for management of casualties in future conflicts, including the land and seaborne hardware and procedures utilized in fielding this hardware, must ultimately accommodate to several highly variable realities: the overall war fighting strategy and tactics utilized by the combat arms; the nature of defensive weapons systems in the hands of potential adversaries; and the complexity and clinical requirements of the multiplicity of wounds that are to be encountered in the face of modern weaponry. Likewise, the availability, or lack thereof, of a strategic medical evacuation system for movement of casualties to higher levels of care removed from the combat zone, impacts upon medical care requirements in a littoral conflict or, for that matter, any conflict wherein ships are contributing medical support to a land-based operation, such as that which existed in Vietnam and the Falklands.

History has provided many examples of innovative medical adaptations to changing tactical and strategic conditions: the large number of World War II/Korean War LST(H)s as described by Marghella; the three "gray hull" APH hospital transports of World War II; the priority development of 20 plus U.S. Army hospital ships on tanker/freighter hulls plus the smaller number of rapidly produced Navy hospital ships in World War II; the lashing of helicopter landing floats on the sides of hospital ship USS *Haven* in Inchon harbor to facilitate direct rotary craft air transport of casualties; the rapid modification of the commercial P&O cruise ship *Uganda* into a capable hospital ship during the Falklands conflict; and the construction of an internal air-tight casualty receiving hospital by the British Navy in its helicopter training ship RFA *Argus* during Desert Shield/Storm.

Likewise notable in history, the British and Argentine military, with the cooperation and the International Committee of the Red Cross, established the neutral "Red Cross Box" navigation zone at sea off the Falklands, in which hospital ships of both belligerents received casualties, and exchanged them when necessary.

Concurrently, the British established a three-vessel fleet of Red Cross protected ambulance ships from con-

verted oceanographic survey vessels to carry casualties to a Red Cross supervised neutral landing staging point in Montevideo, Uruguay, for fixed wing air evacuation of casualties back to Britain via Ascension Island.

These pioneering efforts at casualty care accommodation were all engendered by a need to support the prevailing unique tactical and strategic requirements as defined by the combat arms. Furthermore, the decision in these multiple conflicts to convert some but not all of these casualty care adaptations to a status of protected Geneva Convention neutrality, were clothed in the context of the nature of the war fighting strategy.

I am disappointed in the clearly narrow view of the LST that Guzman and Aboul-Enein painted, notwithstanding the fact that there is little advocacy for use of the old LSTs in Navy casualty support planning, unless Navy/Marine Corps OMFTS (Operational Maneuver From the Sea) war fighting strategy finds a mission for these vessels, which I doubt. What the critical authors ignore, however, is the fact that another credible nation, whose defensive strategy differs from ours, has indeed found a clear use for the LST in casualty care! Several years earlier, Australia purchased two U.S. LSTs, *Fairfax County* and *Saginaw*, and has been in the process of converting them into multipurpose amphibious coastal assault craft. Re-designated by the Royal Australian Navy as LPAs, they can carry two LCM eight landing craft, four Blackhawk or three Sea King helicopters (each can even store a Chinook), 450 troops, vehicles and amphibious equipment. Each ship has been equipped with a pri-



Ambulance ship HMS *Hecla* was one of three oceanographic survey ships converted to Geneva protected status. The vessel moved casualties from SS *Uganda* to Montevideo, Uruguay during the Falklands War.

mary casualty receiving facility to support amphibious landings: two trauma receiving tables, six trauma beds, two preoperative beds, two surgical tables, two recovery beds, six intensive care beds, and a ward of 32 lower intensity care beds. Each has a blood bank, x-ray machines and small laboratory. Medical staffing will no doubt be drawn from all of the armed services. Concomitantly, each ship has enhanced Command, Control, and Communications capabilities for the leadership of the combat forces, along with upgraded internal operational facilities (water making, internal heating, biological treatment systems for sewage etc.). Since they carry combat support elements, these ships will not be Geneva Convention protected, but the medical facilities have been clearly matched to the Australian Defense Force war fighting tactics, given their overall national defense strategy.

Guzman and Aboul-Enein are articulating a rather naive argument. They should also note that an old LPH/LHA will be a clear target for an adversary equipped with Silkworm or Exocet missiles, since these slower vessels with big radar footprints charged with sustainment of offloaded expeditionary troops will be the "achilles heel" of any over-the-horizon attack upon an adversary with state of the art defensive armaments.

In addition to weapons originally developed by Soviet technology and subsequently sold worldwide, today's threats include very advanced Western designs. Furthermore, one would expect that an enemy's precision sensors and weapons, which utilize speed, stealth, maneuverability, background clutter, and surprise, will be subsequently directed at the big slow ships of the afloat sustainment base. Such ships invariably have little time to defend themselves against weapons employed at the shorter ranges likely in the littoral. In addition, the difficulty of preventing or rapidly detecting the laying of mines, or of clearing them in waters covered by a coastal defense system, one further protected by diesel submarines with sensors and weapons continuously updated by countries hostile to U.S. interests and supported by fast

HMAS *Manoora* (LPA-52) formerly USS *Fairfax County* (LST-1193).



modern missile equipped speed boats, will ultimately oblige task force ships, and their contained medical facilities, to move to seaward.

Therein lies the challenge! In future littoral warfare, air, sea and ground launched missiles, as well as mines and other familiar weapons, will create a tactical environment of unparalleled complexity insofar as land-sea-air interaction is concerned, potentially impeding the timely evacuation and medical management of casualties.

Guzman and Aboul-Enein should also take note that during the 1991 Gulf war, helicopter transport to the two U.S. hospital ships proved quite problematic. The helicopters' carrying capacities and in-flight flying time capabilities were limited, and because of the missile threat the ships were kept far from the combat scene. They were obliged to remain on station at far removed geographic locations. As a result, had there been a need to transport large numbers of casualties from deep desert battle areas, the impact of the protracted distances to be traversed upon the fuel limitations of the rotary aircraft, and the protracted travel time, would have magnified the difficulties of access to the floating hospitals and adversely affected the prognosis for some critically injured casualties. The problems of access to a rejuvenated ex-amphibious warship, as proposed by Guzman and Aboul-Enein, will be the same.

During littoral warfare, therefore, revised mechanisms for medical support of operational maneuver from the sea will ultimately require a paradigm shift, implemented by those on-site, supported by equally pragmatic and visionary leadership. Significant innovation will be required for implementing effective casualty care services, dependent, of course, upon the proportion of assets that the combat arms are willing to commit to a logistical function such as medical care.

After all, it must be recognized that there are definite logistical costs to a combat arms commander whenever these concepts are included in an operational plan. As has been intimated previously, when examining the realities of tactical and logistical compromise in managing combat casualties during over-the-water littoral combat actions, "there is no free lunch" for a combatant commander.

It may well be that no specific form of hospital ship, as we know them today, will be supported by the combat arms. How will casualties be supported? Will commercially chartered cruise ships already containing hotel, laundry, and other facilities required by a hospital, such as that utilized aboard SS *Uganda*, be available? Perhaps there will only be logistics support ships available, such as: vessels of the Military Sealift Command; vessels previously utilized for delivery of pre-positioned military equipment; ships such as the surge and sustainment cargo vessels, otherwise known as medium-speed roll-on/roll-off (LMSRs) of our strategic sealift forces; ships of the Ready Reserve Force, including breakbulk and barge-carrying ships or lighter-aboard vessels. Might they be equipped with pods of shock/surgical team equipment and staffed with multi-service augmentees backed by a land based sustainment base? After all, afloat medical services have never existed in a vacuum, and there has always been an inextricable relationship between events at sea and those on land.

Medical leadership must recall that historically, forward based medical facilities on land, distant from the combat zone, have been critical to the support of naval warfare. Land frequently determines whether a navy has the overseas infrastructure—including medical logistic support bases—to undergird its deployments. Will land based DEPMEDs type facilities be available in territorial proximity to evacuation vehicles? In the matured theater of operations that existed during the latter stages of World War II, for example, large numbers of mobile, base, and

fleet hospitals, creations of the Navy's Advanced Base Functional Component System (ABFC), were deployed overseas. Their value to the fleet was highlighted during the invasion of Okinawa, when kamikaze attacks upon the Fifth Fleet created high numbers of casualties among the forces afloat. For continuity of naval operations, six hospital transports were required for evacuating the mounting shipboard casualties to hospital facilities on Guam.

During the Falklands conflict, following the Argentine bombing of the British auxiliary landing ship RFA *Sir Galahad*, there were suddenly generated 179 casualties, including 83 burn victims. The excessive volume of casualties required that many be initially transferred to medical facilities ashore for initial stabilization care prior to transfer to the hospital ship *Uganda*. Are we prepared for the rapid deployment of such capabilities in support of modern OMFTS when required?

Medical prescience is ultimately dependent not so much upon the appearance of an all-knowing soothsayer whose advocacy for a particular variety of seagoing platform is better than another's, but more realistically upon a coherent understanding of both modern advances in medical care, and the exigencies of modern warfare as well, underwritten by an appreciation for historical lessons learned in the sphere of combat casualty care. In conjunction with new operational requirements entailing an increased emphasis upon joint and combined operations adjacent to the littorals, the medical care system must be streamlined to supply speed, flexibility, and, above all, responsiveness to changing tactical and strategic requirements. Many adjustments in the means of delivery of medical support are required (and in the future it may often be at sea). Innovative thinking by those on the scene will be necessary, with little time for deliberate prospective planning or theoretical modeling. **These** are the issues to be articulated by Navy leadership today, rather than a senseless debate over the value of one used ship-frame over another. □

Dr. Smith is Adjunct Professor of Surgery and Adjunct Professor of Military and Emergency Medicine at the Uniformed Services University of the Health Sciences, Bethesda, MD. He is also Professor of Surgery (Urology) at the Medical College of Georgia, Augusta, GA.

GREAT LAKES RESERVE AND ACTIVE MEDICAL COMMANDS HOST COMBAT TRAUMA SYMPOSIUM IN CHICAGO

Reserve Fleet Hospital Great Lakes in conjunction with Naval Hospital Great Lakes will host a Combat Trauma Symposium at the Ramada O'Hare Plaza Hotel 17 and 18 June 2000. The symposium is open to all military and non-military personnel with an interest in combat surgical information, combat medicine and field treatment techniques and technology. "The emphasis is on training our active and reserve medical personnel for future conflicts," CAPT Harry Friedman, MC, USNR, Director of Surgical Services for Reserve Fleet Hospital Great Lakes.

Beginning at 0800 and ending at 1600 each day, the two-day event will feature a special videotaped message from Navy Surgeon General VADM Richard Nelson, MC, USN, as well as a personal appearance by the Surgeon General of the Israeli Defense Forces, General Aryeh Eldad. Appearances by CAPT Rick Jolly, Royal Navy Medical Corps, and Medal of Honor Recipient HM3 Robert Ingram are scheduled.

CAPT Jolly will speak about the medical aspects of the 1982 Falklands War in which Argentine and British forces engaged one another over the Falklands Islands. Jolly will focus on the combat casualty management and the over 780 wounded, whose injuries ranged from minor shrapnel scratches to disfiguring burns and loss of limbs. The Israeli Surgeon General, General Eldad, will focus on developments in the delivery combat medicine within the Israeli Defense Forces (IDF).

Faced with years of combat experience during the four Arab-Israeli Wars and continued fighting in Southern Lebanon, the Israelis through trial and error have developed sophisticated and rapid trauma intervention techniques.

Also scheduled is Dr. Nagib Brackovic, who will speak about his experiences during the Bosnian conflict. "We were also fortunate to have Mr. Yosef Bodansky, Director of the House Select Committee on Terrorism speak about the future of worldwide terrorism in the twenty-first century," remarked CAPT Ann Bidwell, MC, USNR, one of the symposium organizers. Mr. Bodansky is the nation's expert on Osama Bin-Laden. He has published a biography about Bin-Laden based on over a decade of research and analysis titled, *Bin-Laden: The Man Who Declared War On America*. Bodansky, aside from discussing terrorism, will cover the classes of weapons these groups employ and the types of injuries military medical professionals will encounter in this type of clandestine warfare.

Registration for the 2-day event is \$125 for civilians, \$75 for officers and \$40 for enlisted personnel. Contact HMC Rhonda Carr, USNR at 847-688-2793 or DSN 792-2719 for a registration form. The Ramada O'Hare Plaza Hotel, situated near O'Hare International Airport has reduced rates for conference attendees' call 1-800-2-RAMADA or call direct at 847-827-5131 for details.

Book Review

The Mission of an American Military Doctor in Occupied Japan and Wartorn Korea by Crawford F. Sams, M.D. An East Gate Book; M.E. Sharpe, Inc., Armonk, New York. 312 pages, 1998.

Dr. Crawford F. Sams, M.D., reminds us that a career in military medicine can be filled with adventure and an opportunity to improve the lives of many people. His distinguished 33-year career in Army medicine would take him to the North African campaigns of World War II to the problems encountered in the complexities and political crisis of the Korean War. His most memorable experiences were chronicled in a journal and detailed the reconstruction of Japan after its surrender in 1945 and the Korean War. From the moment the doctor steamed into Tokyo Bay in 1945 readers are taken into the public health issues that required more than just a knowledge of medicine but a capable administrator, diplomat, and organizer. Dr. Sams would survey what was left of Japanese hospitals and found patients cowering in fear of their lives expecting the same butchery inflicted by Japanese forces in Nanking, China, and Bataan. GEN Douglas MacArthur would begin to organize a provisional government called SCAP (Supreme Commander Allied Powers in East Asia) and Dr. Sams would carve out an organization within SCAP called the Health and Welfare Section that worked in tandem with Japan's Health, Social, and Welfare Ministries. The first 23 chapters are devoted to his experiences in Japan and detail the diseases encountered, including a visit to Hiroshima as part of the Atomic Bomb Casualty Commission. There are many lessons on how BGEN Sams brought together a team of medical, nursing, and preventive health specialist to build from the ground up many of Japan's healthcare infrastructure and laws.

The book offers valuable insight into the culture and politics of healthcare and welfare distribution. BGEN Sams had to contend even with how voluntary aid groups distributed food and supplies lest they favor the Japanese Christian minority to the delight of communist agitators. Navy medical units charged with humanitarian missions and reconstruction efforts in a developing nation will find this book an interesting

read, for the author had to deal with Japanese culture and the U.S. Army chain of command to get things done. In post-World War II Japan many Americans shaped the nation's medical, nursing and dental schools, and licensure as well as revitalizing the country's pharmaceutical industry.

When the author became theater surgeon in Korea, he encountered polio, typhoid, smallpox, and cholera. These were many of the same diseases found in Japan right after the surrender and made worse by the mass migration of displaced persons between the city and rural areas. In Korea, mass waves of humanity crossed from the North to the South and then back again as UN forces led by the United States fought North Korean and Chinese forces. BGEN Sams would be involved in a medical intelligence mission to confirm an outbreak of bubonic plague behind enemy lines. With the help of an LST (Landing Ship Tank) and destroyer escort, Dr. Sams was sent with LT Eugene F. Clark, MC, USN, and a South Korean officer, south of Wonsan and confirmed the outbreak in a local village. Their efforts led to hard intelligence of medical mismanagement despite communist denials; the doctors were decorated with the Distinguished Service Cross and Navy Cross respectively.

BGEN Sams would be notified of his selection as Army Surgeon General in 1951, but after President Harry Truman relieved GEN MacArthur, he shredded the doctor's nomination. When Dr. Sams returned to the United States he served on the commission that investigated injuries of the Korean War and confirmed those Missing in Action (MIA) and Killed in Action (KIA) for that conflict. Dr. Sams closed his career in 1955. *Medic* is an excellent book and deals with the organizational side of public health in times of conflict. It is highly recommended reading.

—LT Y.H. Aboul-Enein, MSC, is Plans, Operations and Medical Intelligence Officer, Naval Hospital Great Lakes, IL.

Book Review

A History of the U.S. Army Nurse Corps (Studies in Health, Illness, and Caregiving) by Mary T. Sarnecky. University of Pennsylvania Press, Philadelphia. 528 pages, 1999

Why discuss a book about the Army Nurse Corps in *Navy Medicine*? Because the history of the Army Nurse Corps is inextricably linked with our own Navy Nurse Corps.

Since the Revolutionary War, the Army has deployed historians alongside its troops to record events as they happened. Likewise, the Army Nurse Corps has had its cadre of active duty nurse-historians to capture the its legacy. Renowned historian Stephen Ambrose recalled his inspiration to become a historian from the words of a professor whose view was that a historian had a chance to increase the world's knowledge. Historian Jan Herman describes the value of the historian as transcending the discovery and recording of facts through interpretation and the development of context.

Dr. Sarnecky has succeeded in both these respects and written a masterpiece. She has added to the knowledge not only of the Army Nurse Corps but the Navy Nurse Corps as well.

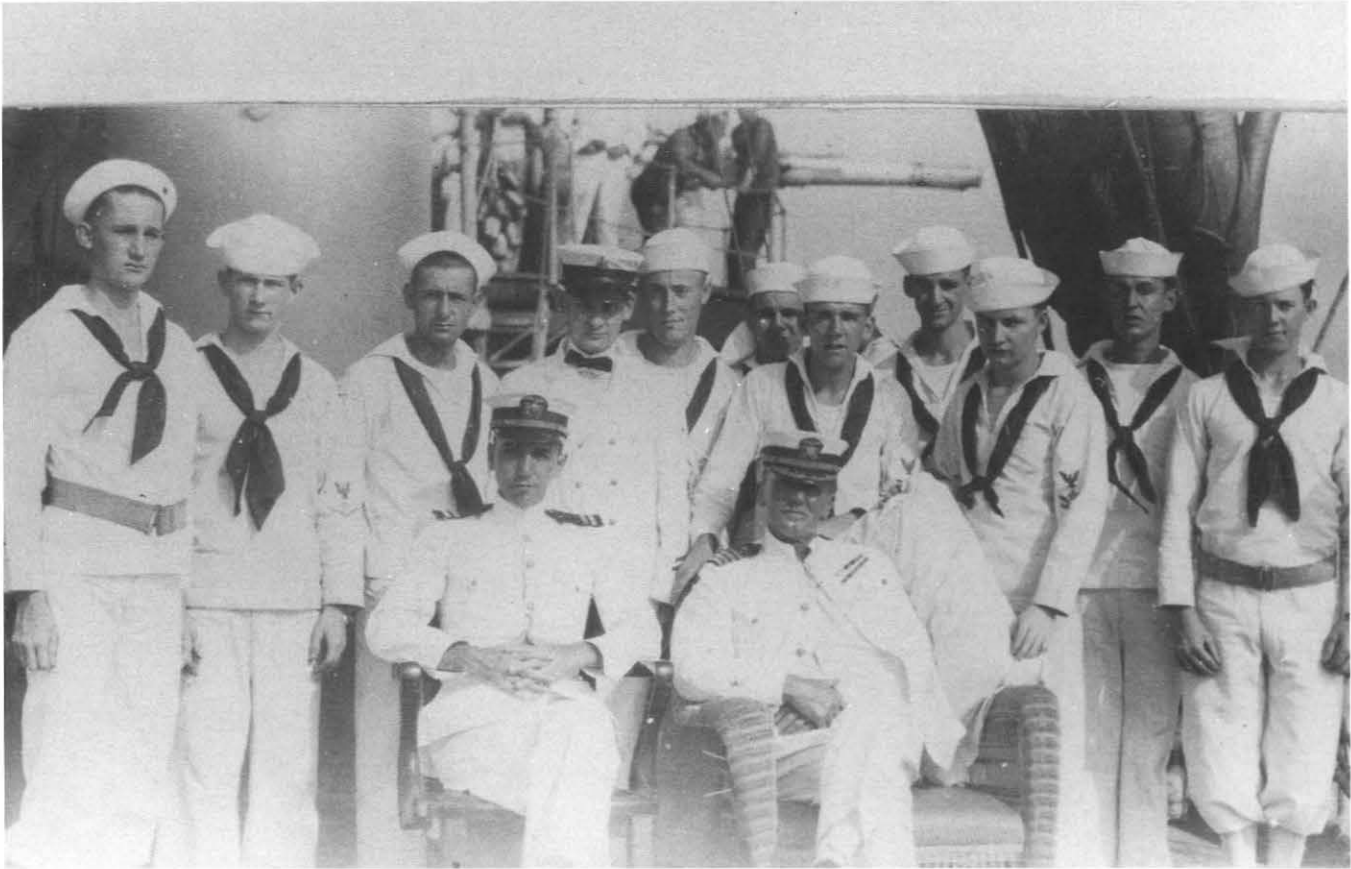
Sarnecky captures the profound surges in casualties that prompted successive campaigns to increase numbers of nurses sent to the battlefields. Her description of conditions during World War I is unforgettable. She includes a quote from the first Superintendent of the Navy Nurse Corps, Esther Voorhees Hasson, who served as an Army Nurse during the World War.

"In spite of the many ups and downs of army life overseas, with the privations, discomforts and hardships and the unpleasant happenings which seemed to come to us all at one time or another, I look back on my two years of army service, twenty-two months of which was spent overseas, as a great and wonderful experience. I shall ever feel that it was a very great privilege to have served in France during the momentous and stirring days of the World War."

Sarnecky's ability to interpret events and create a context to understand the impact of military nursing in the development of casualty care and the leadership role of the military in the mobilization and dissemination of professional practice on overall American nursing practice, makes this book both inspiring and compelling. Her account of the determined and compassionate spirit of nurses across time brings to life new meaning for the phrase "standing on the shoulders of those who have gone before us." Perhaps someday, our Nurse Corps will have a historian as dedicated as Sarnecky to record for our Corps what she has done for her's.

—CAPT Patricia M. Collins, NC, USNR, drills with NR NNMC Bethesda 106.

NAVY MEDICINE 1918



Surgeon and hospital corpsmen of the USS *Minneapolis* (C-13) pose with their commanding officer, CAPT Rufus Johnston.

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